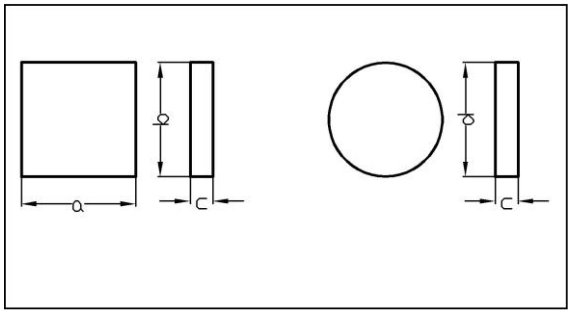
10. Filters

10.1. Colored glass filters

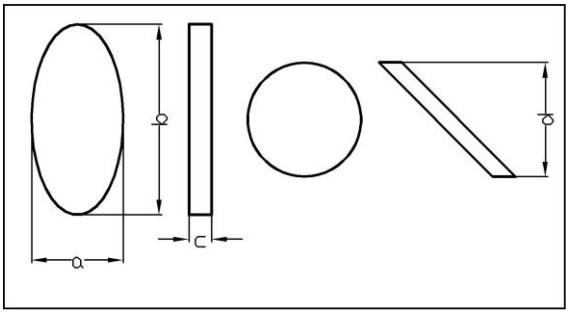
Color filters made of color glass are selectively absorbing light in some ranges of the spectrum**.** They can be modified by adding interference filters to obtain any special properties.
Color filters are designed on the basis of standard color glasses set produced by SHOTT. Several kinds of glasses can be applied to one filter in order to fulfill any requirements.

There are a lot of kinds of color filter glasses:
- RGB choice filter glass – for choosing one color from spectrum
- IR cut filter glass
- Long-wave-pass filter glasses
- Neutral filter glass – for attenuating of light in wide spectral range

We produce color glass filters of different shapes (see the drawings below).



Rectangle and round substrate



Two kind of elliptic substrate

Technical specification – colored glass filters	
	Standard
Material	color glasses
Size range	4 mm ÷ 160 mm
Size tolerance	± 0,1 mm
Clear aperture	90%
Thickness tolerance	± 0,02 mm
Flatness (633 nm)	2 λ per inch
Surface finish (scratches - digs)	60 – 40
Parallelism	< 15 arcmin
Coatings	on request
Mounting	on request

According to customer specification, we can deliver non-standard plane plates with significantly higher optical parameters: 20-10; λ/10 (633 nm), for example.

10.2. Neutral density filters

Neutral density filters are used for attenuation of transmission of visible spectral radiation without influence on its spectral distribution. Filters offered by us are absorptive ones. Optical density is a function of material and its thickness:

$D = \log 1/\tau$
Where: τ – transmission factor of material

Neutral density filters can be used in illuminators or light control applications for measuring devices. We produce our filters with fine quality Schott glasses.

Technical specification – neutral density filters	
	Standard
Material	neutral density glasses
Size range	4 mm ÷ 160 mm
Size tolerance	–0,1 mm
Clear aperture	90%
Thickness tolerance	± 0,02 mm
Flatness (633 nm)	2 λ per inch
Surface finish (scratches - digs)	60 – 40
Parallelism	< 15 arcmin
Coatings	on request
Mounting	on request

According to customer specification, we can deliver non-standard plane plates with significantly higher optical parameters: 20-10; λ/10 (633 nm), for example.